
Product Sheet

# GRDCS/DFCS Datalink Transponder

KRATOS

# GRDCS/DFCS DATALINK TRANSPONDER

The Gulf Range Drone Control System (GRDCS)/Drone Formation Control System (DFCS) Datalink Transponder is a UHF transmitter/receiver designed to function as a Distance Measuring Equipment (DME) to support GRDCS/DFCS navigation requirements.

The use of Time-Of-Arrival (TOA) measurements to compute distances requires the transponder to reply to uplinked command messages from ground control stations with precisely timed downlink telemetry messages. The update rate for the datalink messages is nominally 10 messages/second. The GRDCS/DFCS RF Transponder is capable of interrogation rates from 20 Hz (50 milliseconds) to 2 Hz (500 milliseconds).

The GRDCS/DFCS RF Transponder supports datalink message communication by decoding and transferring uplink command data to the Integrated Flight Controller (IFC) system and by encoding downlink telemetry data representing aircraft flight control mode status and sensor readings from the IFC. The GRDCS/DFCS RF Transponder communicates with the IFC via EIA RS-422.

## Features

- Operates with Single Power Supply
- Designed for Extended Temperature Range
- Power consumption < 100 Watts
- Bi-Phase Modulated 915 MHz Transmit/Receive
- Direct Sequence Spread Spectrum (DSSS)
- Peak RF Output Power of ≥ 200 Watts
- Communication to IFC via RS-422 Channel

## Applications

- Vehicle Tracking
- Distance Measurement Equipment

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## Environmental

| | |
|---|---|
| Random Vibration: | Operating: 0.015g2/Hz 20 to 100 Hz<br>0.04g2/Hz 100 to 2000 Hz for 5 minutes in each orthogonal direction (8.8 Grms) |
| Temperature: | Operating: -40º C to +71º C Storage: -54º C to +125º C |
| Cooling: | Passive Conductive (no moving parts) |
| Shock: | Half Sine, 20 Gs peak, 11 ms, 3 axes |
| Altitude: | Sea level up to 50,000 feet |
| Humidity: | To 95% at any temperature forming frost or condensation |

## Physical

| | |
|---|---|
| Size: | 7.42" H x 9.75" W x 4.00" D |
| Weight: | Less than 13 lbs<br>(excluding the mounting brackets) |
| Connectors: | J1 = TNC; J2 = MS27474Y12B35P |